INHIBITION OF INTERACTION OF PSD93 AND PSD95
WITH nNOS and NMDA RECEPTORS

Abstract

PSD-95/SAP90 antisense-treated animals not only experience a significant decrease in MAC for isoflurane, but also experience an attenuation in the NMDA-induced increase in isoflurane MAC. PSD-95/SAP90 appears to mediate the role of the NMDA receptor in determining the MAC of inhalational anesthetics. Suppression of the expression of PSD-95/SAP90 in the spinal cord significantly attenuates responses to painful stimuli mediated through the N-methyl-D-aspartate receptor activation. In spinal cord neurons PSD-95/SAP90 interacts with the N-methyl-D-aspartate receptor subunits 2A/2B. Activation of the N-methyl-D-aspartate receptor in spinal hyperalgesia results in association of the N-methyl-D-aspartate receptor with PSD-95/SAP90. PSD-95/SAP90 is required for hyperalgesia triggered via the N-methyl-D-aspartate receptor at the spinal cord level.